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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/823,451	04/12/2004	Chcc-Shuen Lee	JCLA12897	4715
23900	7590	06/04/2007	EXAMINER	
J C PATENTS, INC.			MRUK, GEOFFREY S	
4 VENTURE, SUITE 250			ART UNIT	PAPER NUMBER
IRVINE, CA 92618			2853	
			MAIL DATE	DELIVERY MODE
			06/04/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/823,451	LEE ET AL.	
	Examiner	Art Unit	
	Geoffrey Mruk	2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 April 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 8-13,27 and 28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 8-13,27 and 28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 17 April 2007 has been entered.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 8, 27, and 28 are rejected under 35 U.S.C. 102(e) as being anticipated by Powers (US 6,719,405 B1).

With respect to claim 8, Powers discloses an inkjet print head, comprising:

- an ink chip (Fig. 1b, element 38), having a surface and at least an ink slot (Fig. 1b, element 50) formed through the ink chip;
- at least a heater (Fig. 1b, element 10), formed on the surface of the ink chip;

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- a chamber layer (Fig. 1b, element 14), having at least a first ink channel (Fig. 1b, element 59) and at least an ink chamber (Fig. 1b, element 12), formed on the surface of the ink chip, the ink chamber exposing the heater, the ink chamber connecting to the ink slot by the first ink channel, the ink chamber having a plurality of chamber walls (Fig. 2, element 54aR) and at least one of the chamber walls laterally caves in (Fig. 2, element 14a) away from the heater to form at least a collecting room, wherein the collecting room is a part of the ink chamber and is separate from the first ink channel (Column 4, line 58 – Column 5, line 8); and
- a nozzle plate (Fig. 1, element 18), having at least a nozzle (Fig. 1, element 24) that is formed through the nozzle plate positioned on the chamber layer, wherein the nozzle is above the heater (Column 4, lines 19-35).

With respect to claim 27, Powers discloses an inkjet print head, comprising:

- an ink chip (Fig. 1b, element 38), having a surface;
- at least a heater (Fig. 1b, element 10), formed on the surface of the ink chip; and
- a nozzle structural layer (Fig. 1b, element 18), having at least a first ink channel (Fig. 1b, element 59), at least an ink chamber (Fig. 1b, element 12) and at least a nozzle (Fig. 1b, element 24), positioned on the surface of the ink chip, wherein the ink chamber exposes the heater, the first ink channel allows an ink to supply into the ink chamber, the ink chamber has a plurality of chamber walls (Fig. 2, element 54aR) and at least one of the chamber walls laterally caves in (Fig. 2, element 14a) away from the heater to form at least a collecting room (Column 4, line 58 – Column 5, line 8), the collecting room being a part of the ink chamber

and being separate from the ink channel, and the nozzle is above the heater and corresponds to the ink chamber (Fig. 1b, element 12).

With respect to claim 28, Powers discloses an inkjet print head, comprising:

- an ink chip (Fig. 1b, element 38) with a surface and at least an ink slot (Fig. 1b, element 50) formed through the ink chip;
- at least a heater (Fig. 1b, element 10), formed on the surface of the ink chip;
- a nozzle structural layer (Fig. 1b, element 18) having at least a first ink channel (Fig. 1b, element 59), at least an ink chamber (Fig. 1b, element 12) and at least a nozzle (Fig. 1b, element 24), positioned on the surface of the ink chip, the ink chamber exposing the heater and the ink chamber connecting to the ink slot by the first ink channel, the ink chamber having a plurality of chamber walls (Fig. 2, element 54aR), at least one of the chamber walls laterally caving in (Fig. 2, element 14a) away from the heater to form at least a collecting room (Column 4, line 58 – Column 5, line 8) the collecting room being a part of the ink chamber and being separate from the ink channel, and
- the nozzle being above the heater (Column 4, lines 19-35) and corresponding to the ink chamber (Fig. 1b, element 12).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Powers (US 6,719,405 B1) in view of Rapp et al. (US 6,626,522 B2).

With respect to claims 9-12, Powers discloses the inkjet printhead as applied to claim 1.

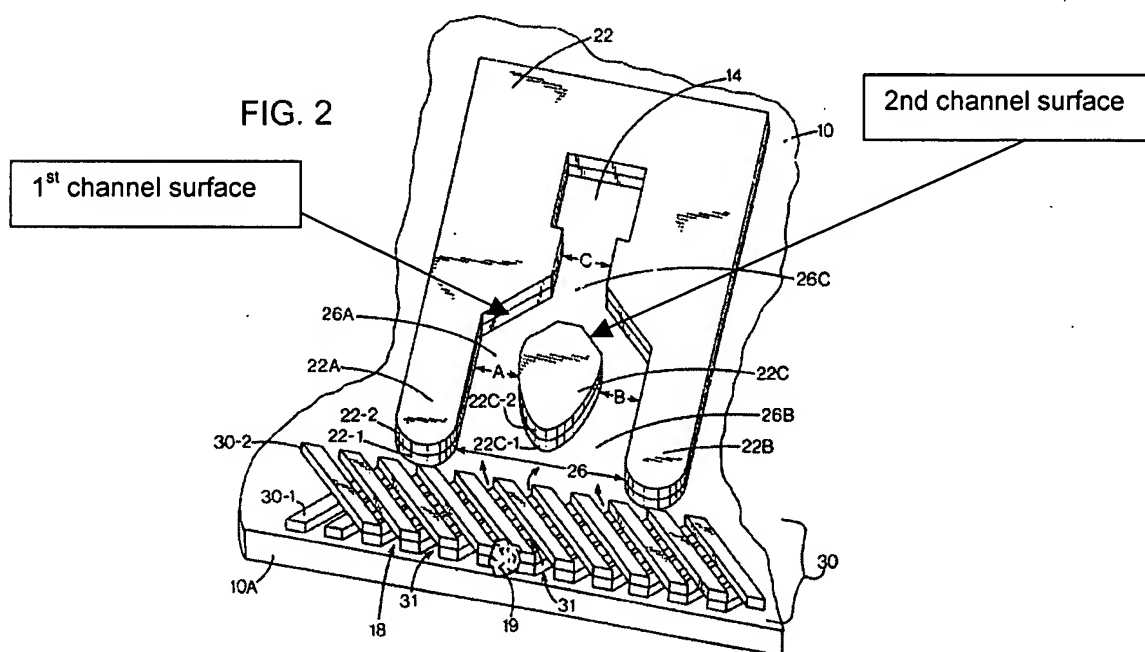
However, Powers fails to disclose:

- an island formed on the surface of the ink chip between the first ink channel and the ink slot,
- the chamber layer further comprises a pair of first ink-channeling surfaces with each first ink-channeling surface being positioned on each side of the first ink channel,
- the island has a pair of second ink-channeling surfaces such that the first ink-channeling surfaces and the second ink-channeling surfaces together form a pair of second ink channels that join with the first ink channel, and
- each first ink-channeling surface and its corresponding second ink-channeling surface are parallel to each other.

Rapp discloses filtering techniques for a printhead where

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- an island (Fig. 2, element 22C) formed on the surface of the ink chip between the first ink channel (Fig. 2, element 26C) and the ink slot (Fig. 2, element 26),
- the chamber layer further comprises a pair of first ink-channeling surfaces (Fig. 2 below) with each first ink-channeling surface being positioned on each side of the first ink channel (Fig. 2, element 26C),
- the island has a pair of second ink-channeling surfaces (Fig. 2 below) such that the first ink-channeling surfaces and the second ink-channeling surfaces together form a pair of second ink channels (Fig. 2, elements A, B) that join with the first ink channel (Fig. 2, element 26C), and
- each first ink-channeling surface and its corresponding second ink-channeling surface are parallel to each other (Fig. 2 below).



At the time of the invention, it would have been obvious to one of ordinary skill in the art to use the filtering techniques of Rapp in the printhead disclosed by Powers. The motivation for doing so would have been "Techniques are described for constructing filter type features capable of entrapping particle contaminants to eliminate printing defects" (Column 2, lines 1-3).

2. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Powers (US 6,719,405 B1) in view of Mizutani (US 6,659,594 B2).

With respect to claim 13, Powers discloses the nozzle (Fig. 1b, element 24) is positioned directly above the collecting room (Column 4, lines 19-35).

However, Powers fails to disclose the nozzle is not positioned directly above the collecting room.

Mizutani discloses an inkjet recording head where "the positions of the energy generating elements are relatively off-set with respect to the positions of the ink ejecting ports" (Column 3, lines 58-60).

At the time of the invention, it would have been obvious to one of ordinary skill in the art to use the nozzle positioning with respect to the energy generating elements disclosed by Mizutani in the printhead disclosed by Powers. The motivation for doing so would have been "the linearity of an image can be maintained even if the timeshared drive is executed" (Column 3, lines 61-62).



***Response to Arguments***

Applicant's arguments, see pages 5-8, filed 17 April 2007, with respect to the rejection(s) of claim(s) 8, 27, and 28 under 35 U.S.C. 102(b) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Powers (US 6,719,405 B1).

***Conclusion***

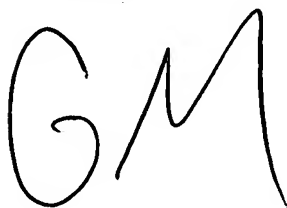
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Geoffrey Mruk whose telephone number is (571) 272-2810. The examiner can normally be reached on IFP.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

GSM  
5/23/2007

A large, stylized handwritten signature consisting of the letters 'G' and 'M' joined together.A handwritten signature in black ink, appearing to be 'S. Meier', with a long horizontal stroke extending to the right.

**STEPHEN MEIER**  
**SUPERVISORY PATENT EXAMINER**